

Misconception

Heavy objects fall at a greater speed than light objects

A ball in flight has a force that's propelling it forwards

An object at rest has no forces acting on it

The Earth takes a day to go round the sun

Plants get their food from the soil

Particles expand when they are heated

Light travels from students' eyes to the object

All solids are hard

Air is one gas

plants are flowering plants grown in pots with colored petals
and leaves and a stem

trees are not plants

all leaves are green

all stems are green

a trunk is not a stem

blossom is not a flower.

only four-legged mammals, such as pets, are animals

humans are not animals

insects are not animals

all 'bugs' or 'creepy crawlies', such as spiders, are part of the
insect group

amphibians and reptiles are the same.

only fabrics are materials

only building materials are materials

only writing materials are materials

the word 'rock' describes an object rather than a material

'solid' is another word for hard.

an animal's habitat is like its 'home'

plants and seeds are not alive as they cannot be seen to move

fire is living

arrows in a food chain mean 'eats'.

plants are not alive as they cannot be seen to move

respiration is breathing

breathing is respiration.

a complete circuit uses up electricity

object.

components in a circuit that are closer to the battery get more electricity.

adaptation occurs during an animal's lifetime: giraffes' necks stretch during their lifetime to reach higher leaves and animals

living in cold environments grow thick fur during their life

offspring most resemble their parents of the same sex, so that sons look like fathers

your heart is on the left side of your chest

more

some blood in our bodies is blue and some blood is red

all fat is bad for you

foods only contain fat if you can see it

all drugs are bad for you.

all micro-organisms are harmful

mushrooms are plants.

the heavier the object the faster it falls, because it has more gravity acting on it

forces always act in pairs which are equal and opposite

smooth surfaces have no friction

a moving object has a force which is pushing it forwards and it stops when the pushing force wears out

a non-moving object has no forces acting on it
heavy objects sink and light objects float.
the Earth is flat
the Sun is a planet
the Sun rotates around the Earth
the Sun moves across the sky during the day
the Sun rises in the morning and sets in the evening
the Moon appears only at night
night is caused by the Moon getting in the way of the Sun or the Sun moving further away from the Earth.
thermal insulators keep cold in or out
thermal insulators warm things up
solids dissolved in liquids have vanished and so you cannot get them back
lit candles only melt, which is a reversible change.
a baby grows in a mother's tummy
all plants have flowers
plants that grow from bulbs do not have seeds
only birds lay eggs.
electricity flows out of both ends of a battery
electricity works by simply coming out of one end of a battery into the component.
sound is only heard by the listener
sound only travels in one direction from the source
sound can't travel through solids and liquids
high sounds are loud and low sounds are quiet.
'solid' is another word for hard or opaque
solids are hard and cannot break or change shape easily and are often in one piece

substances made of very small particles like sugar or sand cannot be solids

particles in liquids are further apart than in solids and they take up more space

when air is pumped into balloons, they become lighter

water in different forms – steam, water, ice – are all different substances

all liquids boil at the same temperature as water (100 degrees) melting, as a change of state, is the same as dissolving steam is visible water vapour (only the condensing water droplets can be seen)

arrows in a food chains mean 'eats'

the death of one of the parts of a food chain or web has no, or limited, consequences on the rest of the chain

there is always plenty of food for wild animals

your stomach is where your belly button is

food is digested only in the stomach

when you have a meal, your food goes down one tube and your drink down another

the food you eat becomes "poo" and the drink becomes "wee".

evaporating or boiling water makes it vanish

evaporation is when the Sun sucks up the water, or when water is absorbed into a surface/material.

the bigger the magnet the stronger it is

all metals are magnetic.

we can still see even where there is an absence of any light

our eyes 'get used to' the dark

the moon and reflective surfaces are light sources

a transparent object is a light source

shadows contain details of the object, such as facial features on their own shadow

shadows result from objects giving off darkness.

rocks are all hard in nature

rock-like, man-made substances such as concrete or brick are rocks

materials which have been polished or shaped for use, such as a granite worktop, are not rocks as they are no longer 'natural' fossils

a fossil is an actual piece of the extinct animal or plant

soil and compost are the same thing.

certain whole food groups like fats are 'bad' for you

certain specific foods, like cheese are also 'bad' for you

diet and fruit drinks are 'good' for you

invertebrates

invertebrates have no form of skeleton.

plants eat food

food comes from the soil via the roots

flowers are merely decorative rather than a vital part of the life cycle in reproduction

plants only need sunlight to keep them warm

roots suck in water which is then sucked up the stem.

Subject	Topic	Child	Adult
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P	Forces		
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P	Forces		
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P	Forces		
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P	Space		
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P	Space		
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b	plants		
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c	particles		
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p	light		
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c	materials		
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c	particles		
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b	plants		
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b	animals		
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c	materials		
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b	animals
b	plants
c	materials
b	animals
b	plants
b	physiology
b	physiology
p	electricity
p	light
p	electricity

b	animals
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b	physiology
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b	plants
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p	forces
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p forces

p forces

p space

p space

p space

p space

p space

p space

p space

p heat

p heat

c materials

c materials

b physiology

Source

Allen M, Misconceptions in Primary Science

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<http://youtu.be/cU2dZz18P0c>

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